

### DETAILED ACTION

1. In the prior action, the mailed on May 9, 2008, claims 1-6 and 9-36 were pending, with claims 5 and 6 under consideration and rejected; and claims 1-4 and 9-36 withdrawn from consideration.
2. In the Response of September 11, 2008, the Applicant amended claims 5 and 6.
3. Claims 5 and 6 are under consideration.

#### *Specification*

4. **(Prior Objection-Withdrawn)** The specification was objected to for containing referring to sequences without also identifying them by the sequence identifier assigned to them in the sequence listing as required by 37 CFR 1.821(d). See, Figure 1 In view of the amendments to the Brief Summary of the Figure, the objection is withdrawn.

#### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. **(Prior Rejection- Maintained)** Claim 5 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection was on the basis that the claim was drawn to peptides consisting of a sequence consisting of a ZA loop of a bromodomain consisting of the amino acid sequence of SEQ ID NO: 19. However, as indicated in Figure 1,

SEQ ID NO: 19 comprises a full-length bromodomain of the hsRing3-1 sequence, not just the ZA loop. By simultaneously requiring the presence of only the ZA loop of the bromodomain, but also requiring the presence of the full-length bromodomain sequence, the claim was requiring two contradictory limitations, and was thereby rendered indefinite.

The claim has been amended to require the presence of only the ZA loop of SEQ ID NO: 19. The amendment has therefore overcome the rejection with respect to this amino acid sequence.

However, the claim as a whole still requires the presence of a ZA loop of a bromodomain, wherein the ZA loop consists of one of the listed amino acid sequences (identified by sequence identification numbers). Like SEQ ID NO: 19, each of these sequences comprises a full-length bromodomain. Thus, again, the claim is requiring both the presence of only the ZA loop of the bromodomain, and defining the ZA loop as comprising the full-length of the bromodomain, thereby containing two contradictory limitations. The rejection is therefore maintained for the reasons of record with respect to these additional sequences.

7. **(New Rejection- Necessitated by Amendment)** Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As amended, this claim read on a fusion protein consisting of a first sequence “consisting of a ZA loop of a bromodomain according to one of SEQ ID NOs. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, and 42, and the ZA loop of SEQ ID NO: 19, and a second sequence from another protein.” It is not clear from the

amended claim language if the amendment to the claim is intended to require the presence of ZA loops from each of one of the sequences listed in lines 2-4 of the claim and of SEQ ID NO: 19 in addition to the second sequence (i.e. requiring the presence of a first sequence from one of the sequences in lines 2-4, a second sequence from SEQ ID NO: 19, and a third sequence from another protein) or if the claim is intended to read on a fusion consisting of a first sequence from one of the sequences in lines 2-4 or of SEQ ID NO: 19, and the second sequence from another protein (in which case the amendment did not change the scope of the claims from the prior action).

Clarification of the claim language is required.

Because the claim appears to indicate that the fusion protein consists of a first and a second sequence, the claim is being treated for the purposes of this action as reading of a fusion consisting of one of the sequences of lines 2-4 or SEQ ID NO: 19 (wherein SEQ ID NO: 19 is the elected embodiment) and a second sequence from another protein.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **(Prior Rejection- Maintained)** Claims 5 and 6 were rejected under 35 U.S.C. 103(a) as being unpatentable over the teachings of Denis et al. (Genes Dev 10:261-71- of record in the action of January 26, 2005) in view of the teachings of Crabtree et al. (US 5,837,840). In view of

the amendments to claim 5 indicating that the fusion protein comprises ZA loops of both SEQ ID NO: 19 and of a second bromodomain, the rejection is withdrawn from this claim.

Applicant's arguments with respect to the rejection are noted. However, the fact that the reference does not teach the function of the bromodomain or the ZA loop is relevant to the rejection. There is no requirement in the claims that the claimed fusion protein performs any particular function. Rather, the teachings in the art indicate that the mere presence of a ZA loop would not necessarily be capable of performing the function of the ZA loop in nature as the loop is described in the art as acting in conjunction with, and in the proper conformational relationship with, the BC loop of the bromodomain. See e.g., Dhalluin et al., Nature 399:491-96, at page 492, left column (reference of record in the July 2002 IDS). It is noted that the claim language excludes the presence of the BC loop in that the claim reads on a fusion polypeptide consisting of a first and second sequence, the first sequence consisting of a ZA loop of one of the indicated sequences or of SEQ ID NO: 19, and the second sequence being from another protein.

Because the claim has no functional requirement, and as the Applicant has not shown that the polypeptide has any particular function (other than as an antigen) relating to the presence of the ZA loop, the arguments are not found persuasive and the rejection is maintained.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Conclusion***

11. No claims are allowed.
12. It is noted that claim amendments to bring the claims into condition for allowance were indicated in the interview of December 4, 2008. The Applicant did not call the Examiner back to indicate that the amendments were acceptable.
13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachariah Lucas whose telephone number is (571)272-0905. The examiner can normally be reached on Monday-Friday, 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Zachariah Lucas/  
Primary Examiner, Art Unit 1648